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AMENDMENTS TO THE CLAIMS

(The following includes a complete listing of all claims with their current status indicated. Additional language is underscored; deletions are stricken through.)

1. (Previously Presented) A recognition force microscope for detecting interactions between a probe and a sensed agent on a scanned surface, comprising:

a scanning probe having a tip that is sensitive to a property of said surface, said probe adapted to oscillate with a low mechanical Q factor;

means for measuring and recording the upward and downward displacement of said probe tip as a function of time;

means responsive to said downward displacement of said probe tip for controlling the height of said probe above said surface;

means responsive to said upward displacement of said probe tip for measuring the interaction between said probe tip and said surface; and

means for recording both topographic images and the spatial location of interactions between said probe and one or more sensed agents on said surface.

2. (Original) A microscope as claimed in claim 1 in which said means for recording the displacement of said probe tip as a function of time comprise a source of radiation directed at said probe, a position sensitive detector that detects radiation reflecting off of said probe, and a controller that processes the detected radiation.

3. (Original) A microscope as claimed in claim 1 in which said means for recording both topographical images and the spatial location of binding events between said probe and sensed agents comprises processing circuitry that generates separate topographical and recognition signals.

4. Canceled.

5. (Original) A microscope as claimed in claim 1 where the Q factor is 20 or less.